

Claims

Having thus described our invention, what we claim as new, and desire to secure by Letters Patent is:

1 1. A method, for use in a virus-free certificate cache, of caching one or multiple virus-
2 free certificates, each virus-free certificate certifying that a file is virus-free, said method
3 comprising the steps of:

4

5 • receiving a virus-free certificate request for a file;
6 • identifying the file in a cache table, said cache table comprising for each
7 identified file one or a plurality of virus-free certificates;
8 • selecting in the cache table one virus-free certificate for the identified file, using
9 one or a plurality of anti-virus criteria;
10 • retrieving from the cache table said selected virus-free certificate;
11 • sending back in response to the virus-free certificate request the retrieved virus-
12 free certificate .

1 2. The method according to claim 1 wherein the virus-free certificate request comprises:

2

3 • a list of one or a plurality of anti-virus programs to execute on the file to
4 determine whether the file is virus-free or not.

1 3. The method according to claim 1 wherein the virus-free certificate request further
2 comprises:

3

4 • an identification of the file.

1 4. The method according to the claim 1 wherein the virus-free certificate request further
2 comprises:

3

4 • an identification of a virus-free certificate authority, said virus-free certificate
5 authority having authority to generate virus-free certificates.

1 5. The method according to claim 1 wherein the virus-free certificate comprises:

2

3 • the list of the one or plurality of anti-virus programs that have been
4 executed on the file.

1 6. The method according to claim 1 wherein the virus-free certificate further comprises:

2

3 • a virus-free certificate authority identification.

1 7. The method according to claim 1 wherein the step of selecting in the cache table one
2 virus-free certificate for the identified file using one or a plurality of anti-virus criteria
3 comprises the further steps of:

4

5 • comparing the list of one or a plurality of anti-virus programs comprised in each
6 virus-free certificate associated with the identified file in the cache table with the list of
7 one of a plurality of anti-virus programs comprised in the received virus-free /certificate
8 request;

9

10 and where the list of one of a plurality of anti-virus programs comprised in a virus-free
11 certificate associated with the identified file includes the list of one or a plurality of anti-
12 virus programs comprised in the received virus-free certificate request:

13

14 • selecting said virus-free certificate.

1 8. The method according to claim 1 wherein the step of selecting in the cache table one
2 virus-free certificate for the identified file using one or a plurality anti-virus criteria
3 comprises the further steps of:

4

5 • comparing the virus-free certificate authority identification comprised in each
6 virus-free certificate associated with the identified file in the cache table, and the virus-
7 free certificate authority identification comprised in the received virus-free
8 certificate request:

9 and where the virus-free certificate authority identification comprised in a virus-free
10 certificate associated with the identified file is identical to the virus-free certificate
11 authority identification comprised in the received virus-free certificate request:

12

13 • selecting said virus-free certificate.

1 9. The method according to claim 1 wherein the step of identifying the file in a cache
2 table comprises the further steps of:

3

4 If the file is not identified in said cache table:

5

6 • forwarding the received virus-free certificate request to another virus-free
7 certificate cache;
8 • receiving a virus-free certificate in response to said forwarded virus-free
9 certificate request;
10 • sending back in response to the received virus-free certificate request, said
11 received virus-free certificate.

1 10. The method according to claim 1 comprising the further step of:

2

3 • receiving a request to update the cache table, said request comprising a virus-
4 free certificate;
5 • storing said virus-free certificate in the cache table.

1 11. The method according to claim 10 wherein the step of receiving a request to update
2 the cache table comprises the further step of:

3

4 • forwarding said request to another virus-free certificate cache.

1 12. The method according to claim 1 comprising the further step of:

2

3 • discarding from the cache table the virus-free certificate which are no more
4 valid.

1 13. The method according to claim 1 comprising the further steps of:

2

3 • selecting in the cache table one or a plurality of virus-free certificates, using an
4 information indicating for each virus-free certificate the date of the latest virus-
5 free certificate request which has been received for said virus-free certificate;
6 • discarding from the cache table said one or plurality of selected virus-free
7 certificate.

1 14. The method according to claim 1 comprising the further steps of:

2

3 • selecting in the cache table one or a plurality of virus-free certificate, using an
4 information indicating for each virus-free certificate the number of virus-free
5 certificate request which have been received for said virus-free certificate;
6 • discarding from the cache table said one or a plurality of selected virus-free
7 certificate Comprises.

1 15. The method according to claim 1 wherein the generated virus-free certificate
2 comprises:

3

4 • a file signature for certifying that the file is declared a virus-free by the selected
5 virus-free certificate authority.

1 16. The method according to claim 1 wherein the virus-free-certificate further comprises:

2

3 • a file identification;
4 • a public key for decrypting the file signature;
5 • a certificate signature for authenticating the virus-free certificate;
6 • an indication of the virus-free certificate validity.

1 17. A system for caching one or more virus-free certificates within a LAN/WAN
2 network, each virus-free certificate certifying that a file to be downloaded to a client is
3 virus-free, said system comprising:

4 a mechanism for receiving a request for a virus-free certificate associated with a file to be
5 downloaded to said client;
6 cache table device for storing one or more virus-free certificates for files, said cache table
7 device including look-up mechanism for identifying one or more virus-free certificates
8 associated with a requested file in a cache table; said look-up mechanism enabling
9 selection of one virus-free certificate for the identified file using one or a plurality of anti-
10 virus criteria; and,
11 mechanism for retrieving from a cache table said selected virus-free certificate; and, in
12 response to said request, returning a retrieved virus-free certificate with said file.

1 18. A program storage device readable by a machine, tangibly embodying a program of
2 instructions executable by the machine to perform method steps for caching one or more
3 virus-free certificates within a LAN/WAN network, each virus-free certificate certifying
4 that a file to be downloaded to a client is virus-free, said method steps comprising:

5 a) receiving a virus-free certificate request for a file;
6 b) identifying the file in a cache table, said cache table comprising for each
7 identified file one or plurality of virus-free certificates;
8 c) selecting in the cache table one virus-free certificate for the identified file
9 using one or a plurality of anti virus criteria; and,
10 d) retrieving from the cache table said selected virus-free certificate and
11 returning a retrieved virus-free certificate with said file.